

RECEIVED

1646

NOV 27 2001

RAW SEQUENCE LISTING  
 PATENT APPLICATION: US/09/029,042B

DATE: 11/13/2000  
 TIME: 12:44:10

TECH CENTER 1600

Does Not Comply  
 Corrected Diskette Needed

Input Set : A:\PTO.txt  
 Output Set: N:\CRF3\11132000\I029042B.raw

4 <110> APPLICANT: Kim, Sun-Young  
 5 Kim, Kee-Won  
 6 Kim, Tae-Han  
 7 Hwang, Jeong-Ho  
 8 Kim, Seon-Hee  
 9 Lee, Sun-Young  
 11 <120> TITLE OF INVENTION: Heterologous Protein Production System using Avian Cells  
 0 <130> FILE REFERENCE:  
 13 <140> CURRENT APPLICATION NUMBER: US 09/029,042B  
 15 <141> CURRENT FILING DATE: 1998-05-15  
 17 <150> PRIOR APPLICATION NUMBER: PCT/KR96/00145  
 19 <151> PRIOR FILING DATE: 1996-08-23  
 21 <160> NUMBER OF SEQ ID NOS: 11

## ERRORED SEQUENCES

68 <210> SEQ ID NO: 2  
 70 <211> LENGTH: 1583  
 72 <212> TYPE: DNA  
 74 <213> ORGANISM: erythropoietin  
 76 <400> SEQUENCE: 2  
 78 atgggggtgc acgaatgtcc tgcctggctg tggettctcc tgcctcctgt 50  
 79 gtcctcctcc ctgggctccc cagtcctggg cggccccacca cgcctcatct 100  
 80 gtgacagccg agtcctggag aggtacctct tggaggccaa ggaggccgag 150  
 81 aatatcacgg tgagaccctt tcccagcac attccacaga actcacgctc 200  
 82 agggcttcag ggaactcctc ccagatccag gaacctggca ctgggtttgg 250  
 83 ggtggagltg ggaagctaga cactgcccc ctacataaga ataagtcctg 300  
 84 tggccccaaa ccatacctgg aaactaggca aggagcaaa ccagcagatc 350  
 85 ctacgcctgt ggcaggggcc agagccttca gggacccttg actcccgagg 400  
 86 ctgtgtgcat ttcagacggg ctgtgtgaa cactgcagct tgaatgagaa 450  
 87 tatcactgtc ccagacacca aagttaattt ctatgcctgg aagaggatgg 500  
 88 aggtgagttc cttttttttt ttttttctt tcttttggag aatctcattt 550  
 89 gcgaacctga ttttgatga aagggagaat gatcgaggga aaggtaaaa 600  
 90 ggagcagcag agatgaggct gctggggcgc agaggtcac gtctataatc 650  
 91 ccaggctgag atggccgaga tgggagaatt gcttgagccc tggaggltca 700  
 92 gaccaccta ggcagcatag tgagatcccc catctctaca aacatttaaa 750  
 93 aaaattagtc aggtgaagtg gtgcatggtg gtatgccag atatttgaa 800  
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 95 ctgtgatcac accactgcac tccagctcca gtgacagayl gaggcctgtl 900  
 96 ctcaaaaag aaaagaaaaa agaaaaataa tgagggtctt atggaalacg 950  
 97 ttcattatc altcaatcac tcaatcacat altcaatcac tcaatcacat 1000  
 98 aacatgtctt attgcatacc ttctgtttgc tcaagcttgg gcttgagagt 1050  
 99 ccaactccctg taggtcgggc agcaggccgt agaagcttgg cagggccttg 1100  
 100 cctgtctgtc ggaagctgtc ctgaggggcc aggccttgtt ggtcaactct 1150  
 101 tcccagccgt gggagccctt gcagctgcat gtggataaag cgtcagtg 1200  
 102 ccttcgcagc ctcaaccactc tgcctcgggc tctgggagcc caggtgagta 1250

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103 ggagcgggaca cttctgcttg ccctttctgt aagaagggga gaaggggttt 1300  
104 gctaaggagt acaggaactg tccgtattcc tccctttct gtggcactgc 1350  
105 aqcgacctcc tgttttctcc ttggcagaag gaagccatct cccctccaga 1400  
106 tgcggcctca gctgctccac tccgaacaat cactgctgac actttccgca 1450  
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249 <211> LENGTH: 1587  
251 <212> TYPE: DNA  
253 <213> ORGANISM: erythropoietin  
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259 gtgacagccg agtctggag aggtacctct tggagggcaa ggaagccgag 150  
260 aatatcacgg tgagacctct tcccagcac attccacaga actcagctc 200  
261 agggcttcag ggaactcct cccagatcc aggaacctgg cacttggttt 250  
262 ggggtggagt tgggaagcta gacactgccc cctacataa gaataagct 300  
263 ggtggcccca aaccatacct ggaactagc caaggagcaa agccagcaga 350  
264 tccctacggc tgtggccca ggcagagacc ttcagggacc cttgactccc 400  
265 cgggctgtgt gcatccaga cgggctgtgc tgaacactgc acttgaaag 450  
266 agaatatcac tctccagac accaaagtta atttctatgc ctggaagag 500  
267 atggaggtga gttccttttt tttttttttt cctttctttt ggagaatctc 550  
268 atttgcaagc ctgatttggg atgaaaggga gaatgatcga gggaaaggta 600  
269 aaatggagca gcagagatga ggtgctctgg gcgcagaggg tccagtctat 650  
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273 ggaagqctga ggcggagga tgccttgagc ccaggaattt gaggtgcag 850  
274 tgagctgtga tcacaccact gcatccagc ctgagtgaca gagtgaagcc 900  
275 ctgtctcaaa aaagaaaaa aaaaaaataa attatgagg ctgtatgaa 950  
276 tacattcatt attcattcac tcactcactc actcattcat tcatcattc 1000  
277 attcaacaag tcttattgca tacctctgt tttctcagct tgggtcttg 1050  
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279 gagtccactc cctgtaggtc gggcagcagg ccgtagaagt ctggcagggc 1150  
280 ctggcctgct tgtcggaagc tgtctgcgg ggcagggccc tgttggtcaa 1200  
281 ctcttcccag ccgtgggagc cctgcaagct gcatgtggat aaagccgtca 1250  
282 gtggccttcg cagctcacc actctgcttc gggctctggg agccaggtg 1300  
283 agtaggagcg gacacttctg cttgcccctt ctgtaagaa gggagaaggg 1350  
284 tcttgctaag gactacagga tctgtccgta tccctccct tctgtggca 1400  
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286 cagatgcggc ctcagctgct ccaactccga caatcactgc tgacactttc 1500  
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407 <210> SEQ ID NO: 10  
409 <211> LENGTH: 193  
411 <212> TYPE: PRT  
413 <213> ORGANISM: erythropoietin gene  
415 <400> SEQUENCE: 10  
417 Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Ser Leu

"i" is invalid for use  
in the sequence, per  
Sequence Rules. Use "n"  
and replace in 2207-2237  
section.

next page

RAW SEQUENCE LISTING  
PATENT APPLICATION: US/09/029,042B

DATE: 11/13/2000  
TIME: 12:44:10

Input Set : A:\PT0.txt  
Output Set: N:\CRF3\11132000\I029042B.raw

```

418      1          5          10          15
419  Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala Pro Pro Arg Leu
420      20          25          30
421  Ile Cys Asp Arg Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu
422      35          40          45
423  Ala Glu Asn Ile Thr Thr Gly Cys Ala Glu His Cys Ser Leu Asn Glu
424      50          55          60
425  Asn Ile Thr Val Pro Asp Thr Lys Val Asn Phe Tyr Ala Trp Lys Arg
426      65          70          75          80
427  Met Glu Val Gly Gln Gln Ala Val Glu Val Trp Gln Gly Leu Ala Leu
428      85          90          95
429  Leu Ser Glu Ser Val Leu Arg Gly Gln Ala Leu Leu Val Asn Ser Ser
E--> 430  100 100 105 110 110 110
431  Gln Pro Trp Glu Pro Leu Gln Leu His Val Asp Lys Ala Val Ser Gly
E--> 432  115          120          125
433  Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala Leu Gly Ala Gln Lys Glu
E--> 434  130          135          140
435  Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile
E--> 436  145          150          155          160
437  Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu
E--> 438  165          170          175
439  Arg Gly Lys Leu Lys Leu Tyr Thr Gly Glu Ala Cys Arg Thr Gly Asp
E--> 440  180          185          190
441  Arg
445 <210> SEQ ID NO: 11
447 <211> LENGTH: 193
449 <212> TYPE: PRT
451 <213> ORGANISM: erythropoietin gene
453 <400> SEQUENCE: 11
455  Met Gly Val His Glu Cys Pro Ala Trp Leu Trp Leu Leu Ser Leu
456      1          5          10          15
457  Leu Ser Leu Pro Leu Gly Leu Pro Val Leu Gly Ala Pro Pro Arg Leu
458      20          25          30
459  Ile Cys Asp Ser Arg Val Leu Glu Arg Tyr Leu Leu Glu Ala Lys Glu
460      35          40          45
461  Ala Glu Asn Ile Thr Thr Gly Cys Ala Glu His Cys Ser Leu Asn Glu
462      50          55          60
463  Asn Ile Thr Val Pro Asp Thr Lys Val Asn Phe Tyr Ala Trp Lys Arg
464      65          70          75          80
465  Met Glu Val Gly Gln Gln Ala Val Glu Val Trp Gln Gly Leu Ala Leu
466      85          90          95
467  Leu Ser Glu Ala Val Leu Arg Gly Gln Ala Leu Leu Val Asn Ser Ser
468      100          105          110
469  Gln Pro Trp Glu Pro Leu Gln Leu His Val Asp Lys Ala Val Ser Gly
470      115          120          125
471  Leu Arg Ser Leu Thr Thr Leu Leu Arg Ala Leu Gly Ala Gln Lys Glu
472      130          135          140
473  Ala Ile Ser Pro Pro Asp Ala Ala Ser Ala Ala Pro Leu Arg Thr Ile
474      145          150          155          160

```

*misaligned  
amino acid numbers*

*see item 4  
on Enr summary  
sheet*

*next page*

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Input Set : A:\PTO.txt  
Output Set: N:\CRF3\11132000\I029042B.raw

475 Thr Ala Asp Thr Phe Arg Lys Leu Phe Arg Val Tyr Ser Asn Phe Leu  
476 165 170 175  
477 Arg Gly Glu Leu Lys Leu Tyr Thr Gly Glu Ala Cys Arg Thr Gly Asp  
478 180 185 190  
479 Gly  
E--> 480 1

*Delete  
at end of file*

## VERIFICATION SUMMARY

PATENT APPLICATION: US/09/029,042B

DATE: 11/13/2000  
TIME: 12:44:11

Input Set : A:\PT0.txt

Output Set: N:\CRF3\11132000\I029042B.raw

L:0 M:201 W: Mandatory field data missing, FILE REFERENCE  
L:108 M:254 E: No. of Bases conflict, LENGTH:Input:1583 Counted:1533 SEQ:2  
L:108 M:252 E: No. of Seq. differs, <211>LENGTH:Input:1583 Found:1533 SEQ:2  
L:278 M:320 E: (1) Wrong Nucleic Acid Designator, NUMBER OF INVALID KEYS:1  
L:430 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:10  
M:332 Repeated in SeqNo=10  
L:480 M:332 E: (32) Invalid/Missing Amino Acid Numbering, SEQ ID:11

**RAW SEQUENCE LISTING  
ERROR REPORT**

BIOTECHNOLOGY  
SYSTEMS  
BRANCH

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NOV 27 2000

TECH CENTER 1600/2300

The Biotechnology Systems Branch of the Scientific and Technical Information Center (STIC) detected errors when processing the following computer readable form:

Application Serial Number: 09/029,042B

Source: 1646

Date Processed by STIC: 11/13/2000

THE ATTACHED PRINTOUT EXPLAINS DETECTED ERRORS.  
PLEASE FORWARD THIS INFORMATION TO THE APPLICANT BY EITHER:  
1) INCLUDING A COPY OF THIS PRINTOUT IN YOUR NEXT COMMUNICATION TO THE APPLICANT, WITH A NOTICE TO COMPLY or,  
2) TELEPHONING APPLICANT AND FAXING A COPY OF THIS PRINTOUT, WITH A NOTICE TO COMPLY.  
FOR CRF SUBMISSION QUESTIONS, PLEASE CONTACT MARK SPENCER, 703-308-4212.

FOR SEQUENCE RULES INTERPRETATION, PLEASE CONTACT ROBERT WAX, 703-308-4216.  
PATENTIN 2.1 e-mail help: [patin21help@uspto.gov](mailto:patin21help@uspto.gov) or phone 703-306-4119 (R. Wax)  
PATENTIN 3.0 e-mail help: [patin30help@uspto.gov](mailto:patin30help@uspto.gov) or phone 703-306-4119 (R. Wax)

TO REDUCE ERRORED SEQUENCE LISTINGS, PLEASE USE THE CHECKER  
VERSION 3.0 PROGRAM, ACCESSIBLE THROUGH THE U.S. PATENT AND  
TRADEMARK OFFICE WEBSITE. SEE BELOW.

**Checker Version 3.0**

The Checker Version 3.0 application is a state-of-the-art Windows based software program employing a logical and intuitive user-interface to check whether a sequence listing is in compliance with format and content rules. Checker Version 3.0 works for sequence listings generated for the original version of 37 CFR §§1.821 - 1.825 effective October 1, 1990 (old rules) and the revised version (new rules) effective July 1, 1998 as well as World Intellectual Property Organization (WIPO) Standard ST.25. Checker Version 3.0 replaces the previous DOS-based version of Checker, and is Y2K-compliant. Checker allows public users to check sequence listings in Computer Readable form (CRF) before submitting them to the United States Patent and Trademark Office (USPTO). Use of Checker prior to filing the sequence listing is expected to result in fewer errored sequence listings, thus saving time and money.

Checker Version 3.0 can be down loaded from the USPTO website at the following address:  
<http://www.uspto.gov/web/offices/pac/checker>

# Raw Sequence Listing Error Summary

SERIAL NUMBER: 09/029,042R

## ERROR DETECTED SUGGESTED CORRECTION

ATTN: NEW RULES CASES: PLEASE DISREGARD ENGLISH "ALPHA" HEADERS, WHICH WERE INSERTED BY PTD SOFTWARE

- 1        Wrapped Nucleics The number/text at the end of each line "wrapped" down to the next line.  
This may occur if your file was retrieved in a word processor after creating it.  
Please adjust your right margin to .3, as this will prevent "wrapping".
- 2        Wrapped Aminos The amino acid-number/text at the end of each line "wrapped" down to the next line.  
This may occur if your file was retrieved in a word processor after creating it.  
Please adjust your right margin to .3, as this will prevent "wrapping".
- 3        Incorrect Line Length The rules require that a line not exceed 72 characters in length. This includes spaces.
- 4        Misaligned Amino Acid Numbering The numbering under each 5th amino acid is misaligned. This may be caused by the use of tabs between the numbering. It is recommended to delete any tabs and use spacing between the numbers.
- 5        Non-ASCII This file was not saved in ASCII (DOS) text, as required by the Sequence Rules.  
Please ensure your subsequent submission is saved in ASCII text so that it can be processed.
- 6        Variable Length Sequence(s)        contain n's or Xaa's which represented more than one residue.  
As per the rules, each n or Xaa can only represent a single residue.  
Please present the maximum number of each residue having variable length and indicate in the (ix) feature section that some may be missing.
- 7        PatentIn ver. 2.0 "bug" A "bug" in PatentIn version 2.0 has caused the <220>-<223> section to be missing from amino acid sequence(s)       . Normally, PatentIn would automatically generate this section from the previously coded nucleic acid sequence. Please manually copy the relevant <220>-<223> section to the subsequent amino acid sequence. This applies primarily to the mandatory <220>-<223> sections for Artificial or Unknown sequences.
- 8        Skipped Sequences (OLD RULES) Sequence(s)        missing. If intentional, please use the following format for each skipped sequence:  
(2) INFORMATION FOR SEQ ID NO:X:  
(i) SEQUENCE CHARACTERISTICS:(Do not insert any headings under "SEQUENCE CHARACTERISTICS")  
(xi) SEQUENCE DESCRIPTION:SEQ ID NO:X:  
This sequence is intentionally skipped  
  
Please also adjust the "(iii) NUMBER OF SEQUENCES:" response to include the skipped sequence(s).
- 9        Skipped Sequences (NEW RULES) Sequence(s)        missing. If intentional, please use the following format for each skipped sequence.  
<210> sequence id number  
<400> sequence id number  
000
- 10        Use of n's or Xaa's (NEW RULES) Use of n's and/or Xaa's have been detected in the Sequence Listing.  
Use of <220> to <223> is MANDATORY if n's or Xaa's are present.  
In <220> to <223> section, please explain location of n or Xaa, and which residue n or Xaa represents.
- 11        Use of <213>Organism (NEW RULES) Sequence(s)        are missing this mandatory field or its response.
- 12        Use of <220>Feature (NEW RULES) Sequence(s)        are missing the <220>Feature and associated headings.  
Use of <220> to <223> is MANDATORY if <213>ORGANISM is "Artificial" or "Unknown"  
Please explain source of genetic material in <220> to <223> section.  
(See "Federal Register," 6/01/98, Vol. 63, No. 104, pp. 29631-32) (Sec. 1.823 of new Rules)
- 13        PatentIn ver. 2.0 "bug" Please do not use "Copy to Disk" function of PatentIn version 2.0. This causes a corrupted file, resulting in missing mandatory numeric identifiers and responses (as indicated on raw sequence listing).  
Instead, please use "File Manager" or any other means to copy file to floppy disk.